space 36 is treated prior to installation within the conduit 14, by treating that surface with 2-propenoic acid, 2-hydroxypropyl ester, polymer with chloroethene and ethenyl acetate reactive resin having a density of 1.37 grams per cubic centimeter at 25 degrees Centigrade and a molecular weight of from 8,000 to 10,000. The reactive resin may contain a catalyst to enhance and cause a preference for a molecular linkage between the thermoplastic sheet 28 and the thermoset material 54. Such a treatment impregnates the polyvinyl chloride sheet 28 through that surface 70, leaving hydroxyl ions along with the catalyst on the surface 70 available for bonding with the isocyanate or other bonding agent which is part of the curing agent for the thermosetting resin. When the curing agent is mixed with the thermosetting resin in the gun 68, an adequate quantity of the isocyanate is calculated and included when conveying the mixture 54 in the delivery tube 62, for bonding with the hydroxyl ions resulting from the treatment of the surface 70 of the polyvinyl chloride sheet 28. Where the thermosetting resin is polyurethane resin or substantially polyurethane resin, and the curing agent is substantially isocyanates, it has been found that a volumetric ratio of isocyanate to resin of from 1.02:1 1.10:1 will provide the necessary quantity of the isocyanate.--

Please replace the paragraph beginning at page 17, line 15 and ending at page 18, line 11 with the following replacement paragraph:

-- In a second step 100, a section 30 of the sheet 28 of semi-rigid thermoplastic material is positioned and fixed

in a predetermined and pre-selected position or location within the interior of the conduit 14 to define the interior physical dimensions and/or configuration designed by the engineer or designer. In the case of a conduit substantially circular in cross-section, this step defines the ultimately resulting interior diameter. In this step, also, the positioning defines the interior surface that will face the waste water in the ultimately restored conduit, including the chemical composition. This surface should be corrosion resistant and impermeable to corrosive gases and liquids. This positioning step 100 also defines the space 36 between the sheet 28 and the corroded interior surface 22 of the substrate 18. The positioning is accomplished by first defining that part or portion of the interior of the substrate, that is to say, what portion of the circumference within the interior of the substrate that is to be restored. As noted herein, I intend and mean to include conduits which are rectilinear in cross-section when describing distances along the circumference of the conduit substrate. The limits or boundary of the interior surface of the substrate that is to be restored, is defined by first installing or fixing opposing channels into which opposing edges of the thermoplastic sheet can be inserted and thereby fixed. In the preferred embodiment, the channels are filled with a thermosetting material that will receive and set with the sheet to prevent the corrosive elements of the waste water from penetrating between the sheet and the substrate or soaking and damaging any materials therebetween. The next contiguous section is joined to the next previous section by a seam having a channel on both linear side edges for receiving the joining edge of the corresponding thermoplastic sheet sections.

EJ Cont

These channels also may be filled with the thermosetting material used in the opposing channels formed on the surfaces of the substrate described above, to create a molecular bond between the sections that will resist penetration behind the sheet sections by the corrosive elements of a sewer system.--

E2 Cont

Please replace the paragraph beginning at page 21, line 14 and ending at page 21, line 21 with the following replacement paragraph:

E3

-- The resulting structure, as depicted in the schematic cross-sectional cut-away view or slice in FIG.9, is a chemically integrated and continuous, composite structure 110 having some five regions, each with differing physical characteristics contributing to a conduit much stronger, more resilient and longer lasting than the conduit, even as originally constructed. The resulting structure is alternatively described as having three layers: a porous, mineral containing substrate layer 18, a layer of thermosetting material 54, and a layer of thermoplastic material 28. The interfaces between adjacent ones of the three layers are characterized by strong covalent bonds. Significantly, the resultant structure 110 makes use of the entire pre-existing, corroded substrate 18 and whatever residual strength and physical characteristics the deteriorated substrate 18 possessed prior to restoration.--

IN THE CLAIMS:

Please replace claims 47, 51 and 55-60 with the following amended claims: